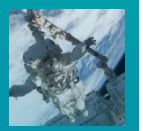
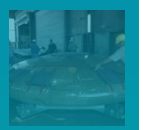
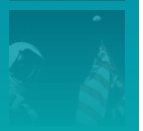
National Aeronautics and Space Administration





Driving Safely is Everyone's Mission

NASA Vehicle Safety

Senior Management ViTS Meeting

October 2012

Deirdre Healey

Acting Director, Mission Support Division, OSMA

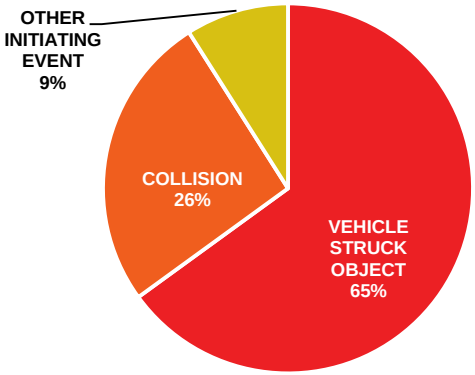
This and previous presentations are archived at
sma.nasa.gov/safety-messages

THE PROBLEM

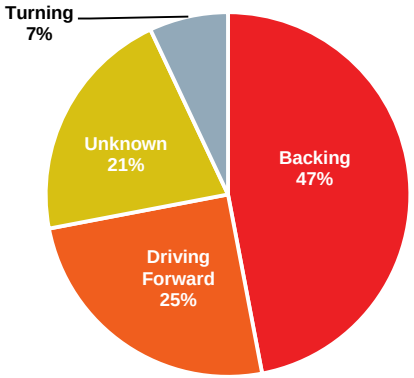
Nearly 40% of all damage mishaps at NASA locations between 2009 and 2011 involved motor vehicle accidents

- There were 475 transportation mishaps and close calls between 2009 and 2011
- There have been fatalities and serious injuries on or near NASA sites, including a fatality in July 2012
- The majority of accidents were caused by
  - Vehicle-to-vehicle collisions
  - Vehicles running into stationary objects

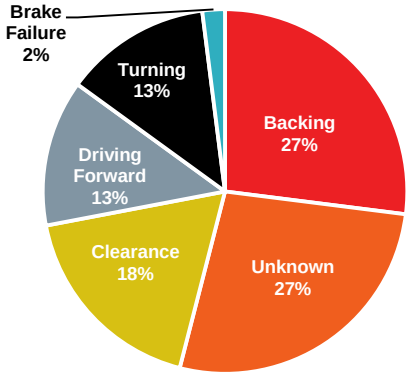
Transportation Damage Mishaps by Detailed Initiating Event (2009-2011)



Transportation Incidents by Vehicle Collisions (2009-2011)



Transportation Incidents by Struck Objects (2009-2011)











WHAT HAPPENED?

Skills for backing are often lacking

- Nearly 50% of collisions and more than 25% of all struck-object incidents were caused by vehicles that were backing up
- In both categories, backing accidents led all other transportation incidents at NASA

Driving forward, clearing, and turning

- Second-most frequent cause of vehicle incidents at NASA involved driving forward
- Third-most involved clearance incidents (side and overhead)
- Fourth-most involved turning

Serious mishaps happen

- In 2012, a NASA employee was in what appeared to be a minor incident in an Agency parking lot
- After the employee's vehicle struck a stop sign supported by a concrete pole, the driver had to be hospitalized with a neck fracture
- Even seemingly minor accidents can result in serious injuries

Pedestrians are also at risk

- There have been many close calls involving pedestrians on NASA sites
- For the majority of the incidents reported, the drivers were exceeding the posted speed limit and/or not paying attention
- In some cases, it was the pedestrians who weren't paying attention









WHERE DID IT HAPPEN?

Where drivers were at the time of the incidents

- While many of the locations of NASA's transportation incidents were not specifically recorded, a significant number occurred in parking lots and at gates
- Everyone who works at a NASA Center of facility passes through its gates and parks in its lots
  - In a 2009 incident, an employee driving a government-owned truck misjudged oncoming traffic and ran into a gate
  - There were no injuries, but the damages to the truck and gate were costly

Location-specific dangers

- NASA sites range from compact campuses with lots of buildings, vehicles, and pedestrians to wide open spaces where wild animals roam the roads
- NASA also has vehicles (tour buses, forklifts) and equipment (construction cranes, transport trailers) that are commonly encountered within the Agency's gates
- Because conditions vary so much, drivers must pay attention to the particular dangers of their locations

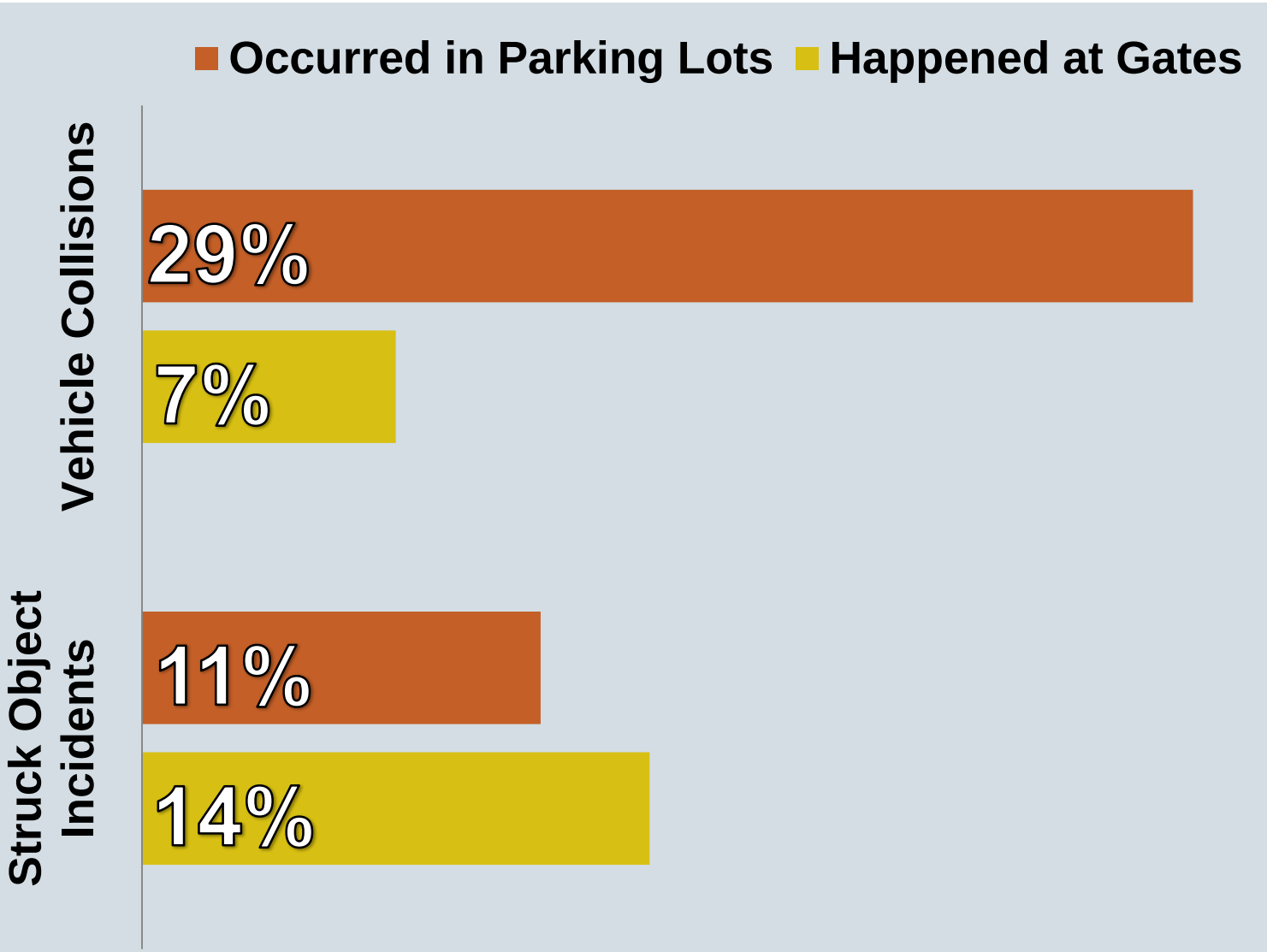
Mishaps in parking lots

- Because vehicle speeds are much slower in parking lots, many drivers don't think about the greater potential for accidents
- Although few injuries occur in parking lots, damages and the cost of repairs can be troublesome and expensive
- One out of every four vehicle accidents in the U.S. is the result of poor backing up procedures

Some backing tips

- Park conveniently, do a walk-around, use a spotter, know your blind spots, clear your windows, turn around and look, back up slowly

WHERE DID IT HAPPEN?











DISTRACTED DRIVING

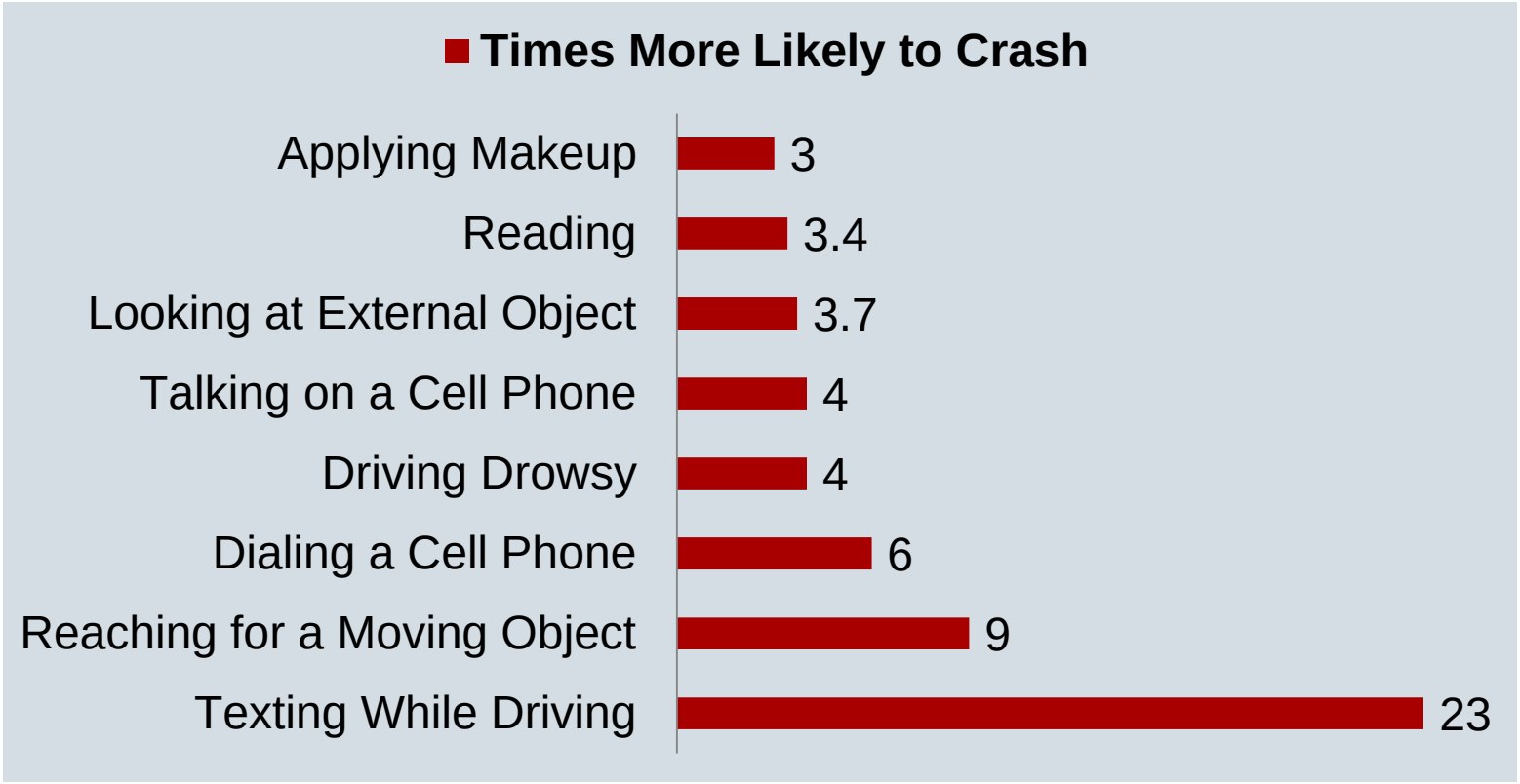
Driven to distraction

- Based on the types of accidents and reasons that were reported, the causes for mishaps on NASA property are similar to the causes of accidents outside the gates
  - Weather and mechanical problems can be factors
  - More often, it is something the driver did or didn't do that led to the accident
- Statistics show that one of the principal causes of fatal and serious injury crashes on U.S. roads is ***distracted driving***
  - Because of the nature of the transportation incidents that occur at NASA, distracted driving is a major concern
  - Any distraction inside a motor vehicle endangers the safety of the driver, passengers, and those outside the vehicle
- The National Highway Traffic Safety Administration lists three types of distracted driving:
  - **Visual** — taking your eyes of the road
  - **Manual** — taking your hands off the wheel
  - **Cognitive** — taking your mind off your driving
- The U.S. Government's website, Distraction.gov, defines distracted driving as "Any activity that could divert a person's attention away from the primary task of driving.

DISTRACTED DRIVING

Typical driving distractions

- The Virginia Tech Transportation Institute (VTTI) conducted a study to review the relative risk estimates for crash and near-crash inattention events
- The results showed increased crash risk (number of times more likely to crash) for the following behaviors:











BEYOND THE NASA GATE…

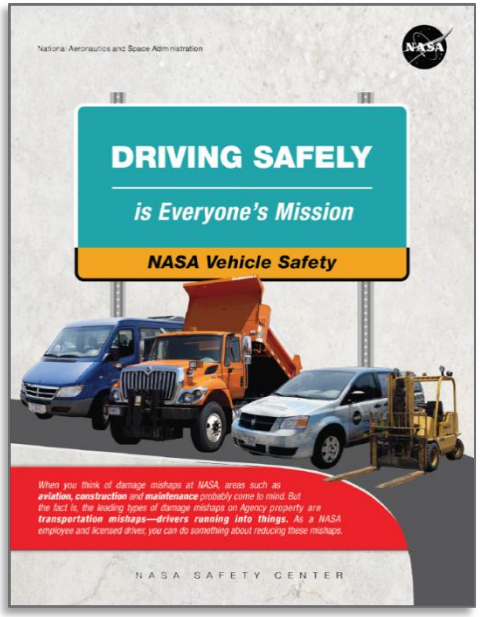
No texting while driving—it's the law for Federal employees

- On September 30, 2009, President Obama signed an Executive Order directing Federal employees to not engage in text messaging
  1. While driving government-owned vehicles
  2. When using electronic equipment supplied by the government while driving
  3. While driving privately owned vehicles when they are on official government business
- The order also encourages Federal contractors and others doing business with the government to adopt and enforce their own policies banning texting while driving on the job

Beyond the NASA Gate

- NASA wants you to be safe wherever you are travelling and in whatever vehicle you use
- Safe driving practices should be followed while you're on NASA property, on your daily commute, and on your own time
- If all NASA employees drive safely, there will be fewer transportation incidents, along with the physical, emotional, and financial costs
- Stay focused and don't let distractions make you a traffic statistic
- Driving safely is everyone's mission

RESOURCES



Case Study

Video

Handout

For more information, visit the NSC's Transportation Safety Campaign page at http://nsc.nasa.gov/resources/studies/transportationsafety.